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ABSTRACT

During the past fifteen years, a variety of linguistic analyses of the tense and aspect systems of dialects of English has been conducted. These analyses were bounded by several analytic dimensions. This paper treats three of these dimensions and discusses their interrelationships and implications in relation to two dialects--Black English and standard English. All of the analyses discussed are cast in the framework of generative, transformational grammar. The semantic approach to the analysis of standard English tense and aspect reveals that the underlying structure of both Black English and standard English is substantially the same. A list of references is included. (Author/JM)

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TENSE AND ASPECT IN ENGLISH

Carol W. Pfaff

ABSTRACT

Recent developments in the syntactic and semantic analysis of the Auxiliary system of Standard English are reviewed and the results compared to an analysis proposed for Black English. A semantic approach to analysis of Standard English tense and aspect reveals that the underlying structure of both Black English and Standard English are substantially the same.

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TENSE AND ASPECT IN ENGLISH

Carol W. Pfaff

INTRODUCTION

The past fifteen years has seen a variety of linguistic analyses of the tense and aspect systems of dialects of English, bounded by several analytic dimensions.

The first dimension is dialect. In the present paper, two dialects, Black English spoken in the United States and Standard English are considered. Some investigators, particularly those who believe that Black English originally was a creole language, have proposed that present-day Black English reflects this origin by maintaining an underlying tense/aspect system which is very different from that of Standard English.

The second dimension is theoretical. Within a strictly syntactic approach, there are alternative grammars which can account for exactly the same set of surface forms. In particular, the present discussion focuses on whether the auxiliaries have-en and be-ing are best analyzed as members of the underlying category Main Verb.

The third dimension is the type of information considered relevant to the analysis of the tense/aspect system. For both the dialect issue and the auxiliary as main verb issue, the analyses have been drawn from the syntactic behavior of the auxiliaries and other tense forms. Recent work has widened the domain of relevant information to include semantic and pragmatic relations and the interaction of verbal elements with other constituents of sentences.

This paper treats three of these dimensions and discusses their interrelationships and implications. All of the analyses discussed are cast in the framework of generative, transformational grammar.

BLACK VS. ANGLO ENGLISH

The existence in Black English of sentences such as (1):

(1-1) he sick

(1-2) he be sick

(1-3) he pass here yesterday

(1-4) he make me mad

has led to extensive theoretical speculation to accout for these differences from Standard English copula, past tense, and subject-verb agreement. The various proposals resolve into two camps around the issue of whether the underlying structure of the auxiliary in Black English is the same as that of Standard English or different (perhaps due to creolization). The best representative of the former view is Labov; of the latter, Loflin.

Labov has argued for the underlying similarity of Black and Anglo English past tense and copula on the basis of the similar distribution of their surface realizations with respect to phonological and syntactic environments (Labov, et al., 1968; Labov, 1969). Loflin has argued for underlying difference on semantic grounds and economy (Loflin, 1970). Insofar as their proposals are formalized, both Labov and Loflin agree in characterizing tense and aspect in standard English as subcategories of the underlying category Auxiliary, specified in the phrase structure component of a Syntactic Structures--type transformational grammar.[1]

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[1]Chomsky's (1957) Aux rules are given and discussed in detail below.

Loflin's rules for Standard English are given in (2):

(2) 1. Aux → Aux_1 (Aux_2)

2. Aux_1 → (M) Tense

3. Aux_2 → (Perf) (Prog)

4. Perf → have + En

5. Prog → be + Ing

6. Tense → { Pres / Past }

(Loflin, 1970, p. 15)

In contrast, Loflin proposes the following rules for Black English:

(3) 1. Aspect → { Generic / Non-Generic }

2. Non-Generic → { Perfective / Imperfective }

3. Imperfective → Tense + In

4. Tense → { A-Temporal / Present / Indefinite Past Imperfective / Definite Past Imperfective }

(Loflin, 1970, p. 19)

These rules generate base structures which underlie Black English sentences like (4-5)

(4) Aspect
|
Generic
|
She break hearts.

(5) Aspect
|
Non-Genric
|
Perfective
|
She broke my heart.

(6) Aspect
|
Non-Generic
|
Imperfective
/ \
Tense In
|
A-Temp
|
She be breaking my heart.

(7) Aspect
|
Non-Generic
|
Imperfective
/ \
Tense In
|
Present
|
She is breaking my heart.

(8) Aspect
|
Non-Generic
|
Imperfective
/ \
Tense In
/ \
Indefinite Past Imperfective
She been breaking my heart.

(9) Aspect
|
Non-Generic
|
Imperfective
/ \
Tense In
|
Definite Past Imperfective
|
She was breaking my heart.

Loflin's set of rules for Black English appears radically different from his Standard English rules, both in organization and in the categories proposed. The reason for this disparity may be to a great extent, a matter of historical accident. The Black English rules contain entities that can be regarded as semantic, while the Standard English rules are limited to more superficial syntax and even lexical forms, a reflection of the ascendancy of structuralist theory in American linguistics until recently. The available descriptions of Standard English with which Black English has been compared have purposely avoided discussing semantics. Thus, the semantic relationships that have been found to characterize the Black English verbal system seemed to have no counterpart in Standard English.

Within the last five years, however, this situation has begun to change, and semantics per se and the interactions between semantics and syntax and between semantics and phonology have become the focus of a growing number of linguists. Investigations into the semantics of tense and aspect of Standard English reveal substantial similarity to Loflin's description of Black English. A second important line of research in Standard English has suggested some alternative syntactic analyses of the base structure constituency of the auxiliary system.

ALTERNATIVE SYNTACTIC ANALYSES OF STANDARD ENGLISH

We begin by considering the syntax of the Auxiliary in Standard English. Syntactic Structures gives the Aux expansion rule as (10):

(10) Aux → C (M) (have + en) (be + ing)

(Chomsky, 1957, p. 111)

C is equivalent to tense as can be seen from the obligatory number transformation (11):

(11) Structural analysis: X -- C -- Y

(12) Structural change: $C \rightarrow \begin{cases} S \text{ in context } NP_{sing} \\ \emptyset \text{ in other contexts} \\ \text{Past in any context} \end{cases}$

(Chomsky, 1957, p. 112)

Chomsky later made the nature of this constituency more overt, adding the phrase structure rule below to a grammar otherwise similar to that proposed in Syntactic Structures:

(13) C → Present, Past

(Chomsky, 1964, p. 225)

The Auxiliary expansion rule in Aspects is given as:

(14) Aux → Tense (M) (aspect)

(Chomsky, 1965, p. 107)

This rule is important for its introduction of the cover terms Tense and Aspect as phrase structure categories, which reflects the focus on a deeper (more semantic) deep structure. However, Chomsky's analysis here is equivalent to that of his two earlier treatments in that Aux and its subcategories are clearly distinguished from other verbs. The significance of this distinction between Aux and V becomes clear when transformations which mention Aux and V are considered.[2] Transformations as well as phrase structure rules must be taken into account since in generative grammars it is transformations which account for the ultimate position of basic elements in grammatical sentences, i.e., the structure which has been described by pre-transformational grammars.

The transformations of Chomsky, (1964) can be separated into classes on the basis of their treatment of the categories Aux and V.

Five transformations treat some constituents of Aux as main verbs: Interrogative, Negation, Affirmation, Elliptic and So.

On the other hand, Aux and Verb are kept distinct in the structural descriptions of four transformations: Passive, Object, Auxiliary (Affix Hopping) and Do.

Two facts should be noted about these two classes of transformations: The first class of transformations, which treat Aux and main verbs alike,

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[2]Transformations of this type are not discussed in Aspects, therefore the earlier formulations of Chomsky, 1964, are cited.

are optional, while, except for Passive, those of the second class are obligatory. Secondly, the effect of two transformations of the second class, Auxiliary and Do, is to undo the effect of treating Aux and Verb alike in the first class of transformations. These rules account for the surface differences in the behavior of Aux and Verb with respect to position and occurrence with do, illustrated in Table 1. These differences constitute one class of evidence for the analysis of Aux as an underlying category distinct from Verb,[3] and they have been emphasized in most analyses in the structuralist tradition, e.g., Twaddell, (1965); and Palmer, (1965).

Structuralist grammarians, including Chomsky and other early transformationalists, characteristically avoid semantic criteria in grouping lexical items together in categories or word classes, using instead, co-occurrence with certain inflections or position in comparable syntactic environments. These principles of analysis are discussed by Gleason. For him, the lack of overt formal similarity was sufficient to place modals in a separate class from verbs, although he admits this decision is somewhat arbitrary:

> There is a small group of words, can, could, will, would, shall, should, may, might, must which are traditionally included with the verbs. By the definition used here, it is impossible to classify them as verbs since they show none of the verbal inflection, with the possible exception of {-D_1} [past tense]. That is, some people consider could as can plus {-D_1}, and similarly, would, should, might as the past forms of will, shall, may. There is doubtful value in this analysis but in any case the class is quite distinct from verbs in many other respects and quite uniform

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[3]A second class of evidence which justifies the underlying distinction between Aux and Verb is discussed below, pp. 29-30.

> within itself in usage, and so must be recognized as a clearly marked class in English structure. Whether it is treated as a highly specialized subclass of verbs (auxiliary verbs) or as a separate class closely associated with verbs (verbal auxiliaries) does not matter greatly. We will here elect the latter alternative. The definition of a verbal auxiliary must be based largely on syntax rather than on the somewhat debatable inflection, and is therefore a syntactic rather than a paradigmatic class. (Gleason, 1961, p. 104)

It is interesting to note that not all analyses on structuralist principles were limited to forms which occur in surface structure, and thus not all arrived at a system which kept all auxiliaries in a separate class from verbs. For instance, Bloomfield, a grammarian usually considered as an architypical structuralist, classes modals with verbs in spite of the fact that there are no infinitives *to may, *to must, etc. Bloomfield's argument is in fact strikingly similar to those proposed by Lakoff (1965) in that he regards this lack as exceptional (a defective paradigm in his terms) and posits abstract underlying forms:

> Defective paradigms lack some of the inflections; thus, can, may, shall, will, must have no infinitive, must has no past tense, scissors no singular. If, as in these cases, the lacking form happens to underlie the actually existing ones, we do best to set up a theoretical underlying form, such as a non-existent infintive *can or singular *scissor-. (Bloomfield, 1933, p. 233).

In comparison with Bloomfield's analysis, Chomsky actually represents a more rigid structuralist position.

Chomsky's analysis of the auxiliary has been most directly challenged by Ross in the paper "Auxiliaries as main verbs" (Ross, 1967). As Ross points out, his paper is divided into two parts. The first part consists of ten arguments supporting the claim that auxiliaries and true verbs are members of a single lexical category verb. The second part contains two arguments supporting the stronger claim that auxiliaries are main verbs.

TABLE 1: Position of Auxiliaries and Main Verbs in Four Grammatical Transformations

	Affirmative	Yes/No Question	Negative	Tag Question	Emphasis
modal	John can win.	Can John win?	John can't win.	John can win, can't he	John *can* win.
have	John has gone.	Has John gone?	John hasn't gone.	John has gone, hasn't he?	John *has* gone.
auxiliary *be*	John is going.	Is John going?	John isn't going.	John is going, isn't he?	John *is* going.
main verb	John runs fast.	*Runs John fast?	*John runsn't fast	*John runs fast, runsn't he?	*John *runs* fast.[4]
main verb + do		Does John run fast?	John doesn't run fast.	John runs fast, doesn't he?	John does run fast.
modal + *do*		*Does John can win?	*John doesn't can't win.	*John can win, doesn't he?	*John does can win.
have + *do*		*Does John has gone?	*John doesn't has gone.	*John has gone, doesn't he?	*John does has gone.
be + *do*		*Does John is going.	*John doesn't is going.	*John is going, doesn't he?	*John does is going.

[4]This sentence is ungrammatical in the intended sense in which the entire proposition expressed by the sentence is emphasized, although it is grammatical as an instance of contrastive stress, where there is the presupposition that John is not fast at some other activity.

As we have seen, the first claim is not radical. Bloomfield's analysis stands as an example of the previous attribution of verbal status to auxiliaries. Nevertheless, the type of argument used by Ross demonstrates a completely different approach to grammar from that taken by structuralists; namely, an emphasis on the psychological implications of formal devices introduced for the sake of stating explicit rules economically.

Four of Ross's first ten arguments, deal exclusively with modals. These are excluded from the present discussion, which is limited to tense and aspect auxiliaries and the copula <u>be</u>.

In his first argument, Ross criticizes Chomsky's formulation of transformations which apply both to members of Aux and Verb, i.e., transformations of the first class discussed above, p. 7. He points out that Chomsky's term X_2, which appears in the structural description of these transformations, (15) can be restated as (16):

(15) Chomsky's term X_2:

$$\left\{\begin{array}{llll} \text{(a)} & \text{NP}, & \text{C} & \text{VP}_1 \\ \text{(b)} & \text{NP}, & \text{C+M} & \text{X} \\ \text{(c)} & \text{NP}, & \text{C+have}, & \text{X} \\ & X_1 & X_2 & X_3 \end{array}\right\}$$

(16) Ross's statement of X_2

$$\text{Tns}\left(\left\{\begin{array}{c} \text{M} \\ \underline{\text{have}} \\ \underline{\text{be}} \end{array}\right\}\right)$$

Ross argues that:

> Firstly...is a very strange term (it is not even a constituent, and there is no explanation for why such a term should appear in widely separated rules, which appear to have nothing to do with one another); and secondly, the theory makes the claim that the items mentioned in $[X_2]$ have no similarity which would predispose them to function together--$[X_2]$ is as natural a term in this theory as:

(17) Prep $\left(\left\{\begin{matrix} N \\ \text{toast} \\ \text{and} \end{matrix}\right\}\right)$

(Ross, 1969, p. 2)

Ross suggests that Aux and Verb do have a similarity which predisposes them to function together in these rules, and that this should be reflected by replacing X_2 by the natural constituent $\begin{bmatrix} +V \\ +Aux \end{bmatrix}$ in all rules which mention it.

Ross's restatement of X_2 brings out another fact, which he does not discuss in this paper, but which is highly relevant for evaluating competing analyses of the auxiliary. That is, that one element of X_2, Tense, is obligatory, while all the others are optional. This fact is also made explicit at the level of underlying structure by Chomsky's rule introducing Aux where C, i.e., Tense, is the only non-parenthesized element. This rule appears as (10), p. 6 above. We will return to the obligatoriness of Tense below, pp. 29-30.

Ross's second argument for assigning auxiliaries to the category Verb is based on facts about copula <u>be</u>. He claims that the fact that copula <u>be</u> occurs in the position of the verb--S <u>be</u> O in an SVO language like English, SO <u>be</u> in an SOV language--supports its analysis as a Verb. He then argues that since copula <u>be</u> is like auxiliaries with respect to the Gapping and Quantifier Hopping rules, it should have the feature [+Aux] as well as [+V]. He claims that these facts provide evidence that other auxiliaries besides copula <u>be</u> be treated as [+V].

Even if this last statement were logically defensible, there are some problems with the first claim that copula <u>be</u> is a Verb. Although copula <u>be</u> in English does occur in verb position between the subject and

other contentives, an important distinction must be made between the object of a verb and the predicate of a copula be. That is, that the predicate of be is normally constrained to agree with the subject of be in certain features including person, number, gender, and various other presuppositional features, e.g., (18-21):[5]

(18) *We are you

(19) *He is two boys

(20) *The bachelor is pregnant

(21) *The bachelor is a spinster

The objects of main verbs, on the other hand, are not so constrained, e.g., (21-28):

(22) We hit you

(23) He hit two boys

(24) The bachelor hit the spinster.

It should be noted that in Chomsky's auxiliary analysis which Ross is attacking, the copula be is introduced neither as an auxiliary nor as a verb but as a unique element. This is clear in the rule (25) which expands VP:

(25)

$$VP \rightarrow Aux \left\{ \begin{array}{l} be \left\{ \begin{array}{l} Pred \\ Adv_1 \end{array} \right\} \\ VP_1 \end{array} \right\}$$

(Chomsky, 1964, p 224)

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[5]Berdan (personal communication) points that in sentences (a) and (b) these constraints are violated:

(a) He is two boys in one

(b) A bachelor is a male spinster.

Since these are both metaphors, violation of some constraints that otherwise hold is expected.

Ross's fourth argument concerns economical statement of the selectional restrictions on the verbs force and seem. Two general statements are proposed by Ross (26) and (27):

(26) force (also coax, avoid, etc.) requires a [-stative] verb in the next lowest sentence.

(27) seem (also be reported, turn out, happen, etc.) when used with a for-to complement, require a [+stative] verb in the next sentence down.

(Ross, 1967, p. 5)

The examples in (28) and (29) show that the auxiliaries be(ing), have(en), passive be(en) and copula be behave like know rather than learn when embedded under sentences with force and seem.

(28) I forced him to { learn the answer / *know the answer / *be sleeping / *have slept / *be allowed to leave / *be bald }

(29) He seems to { *learn the answer / know the answer / be sleeping / have slept / be allowed to leave / be bald }

The rules given as (26) and (27) need no modification to account for these facts about auxiliaries if they are analyzed as [+stative] verbs.

Three more of Ross's arguments focus on the similar behavior of auxiliaries and true verbs in three types of transformationally reduced sentences, having so as a pro-sentence (30), which or that as a pro-NP (31), and it as a pro-sentence (32).

(30) They said that Tom { likes ice cream / may be there / is working hard / had left / might have been singing } { and so he { does / may / is / has / had / might have been / might have / might } }

(31) They said that Tom { likes ice cream / may be here / is working hard / had left / might have been singing } { { which / and that } { he does / he may / he is / he has / he had / he might have been / he might have / he might } }

(32)

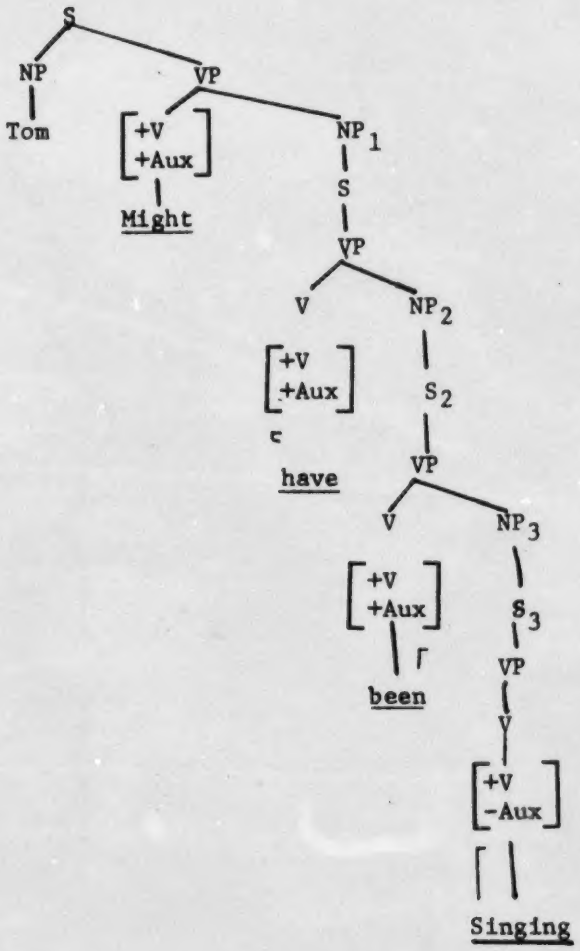
(32-1) I know that our cause is lost, but no one else knows it.

(32-2) Max was chortling when I got up yesterday morning and he was still at <u>it</u> when I went to bed last night.

Aside from making the point that auxiliaries are like true verbs with respect to these three transformations, the analyses proposed by Ross contain two significant innovations, which constitute the essence of the verb analysis. The first concerns the constituency of sentences which have surface auxiliaries. Ross points out that:

> The fact that <u>so</u> can replace either <u>singing</u>, or <u>been singing</u>, or <u>have been singing</u> in the last line [30] constitutes a particularly telling criticism of the analysis of auxiliaries in Chomsky's *Aspects of the Theory of Syntax*, for in that analysis, neither of these last two phrases is even a constituent, let alone being a sentence. In my analysis, however, the derived structure of the embedded sentence in this last line would be approximately that shown in [33].

(33)

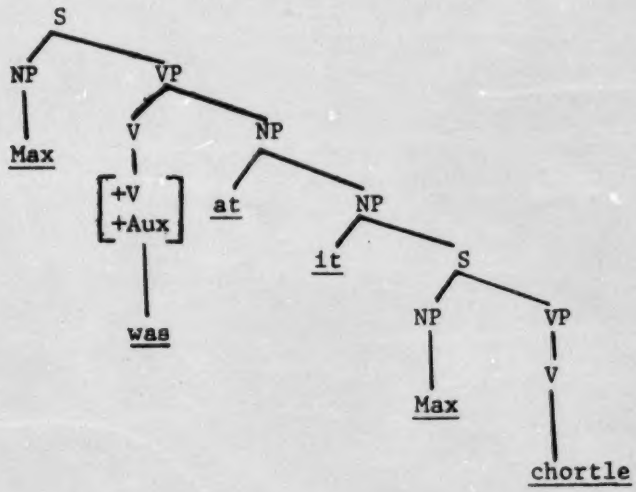


and since exactly the same structure would appear in the second conjunct of the last line in [30], the rule which substitutes so for an identical sentence would be able to replace S_3, S_2, or S_1, this yielding the three possible output sentences, after the so has been permuted to the front of the second conjunct. (Ross, 1967, pp. 6-8).

A similar argument could be made for the sentences in (31). Certain objections to Ross's proposed constituency have been raised by Chapin (1971) and these are discussed below, pp. 30-31.

The second innovation is Ross's analysis of the perfect and progressive aspects as complement structures.[6] (33) illustrates the structure proposed for the perfect, and the structure underlying the relevant portion of the progressive (32-2) is claimed to be (34):

(34)



These claims will be contrasted with the analysis of aspect proposed by Macaulay (1971) below, pp. 31-38.

We turn now to the two final arguments of Ross's paper, in which he seeks to support the claim, illustrated by the above two innovations, that auxiliaries are main verbs.

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[6]"Complement" is used here not in the sense of sentential complement, but to refer to the verb-object relationship. An alternative terminology would be "transitive structure".

Ross's first argument for classing auxiliaries with main verbs rests on a complex chain of hypotheses. These are: (1) that the direction of Gapping depends on the position of the verb in the phrase structure which is input to the gapping rule. Gapping is forward if the V is on the left branch of the VP (SVO word order) as in English; Gapping is backward if the V is on the right branch of the VP (SOV word order) as in Japanese; (2) that Gapping is an optional anywhere rule, (3) that on the basis of their gapped sentences, SVO is the underlying word order of German dependent clauses, which have surface SOV order as the output of an optional Scrambling rule in language such as Latin and Russian, and of an obligatory Verb Final rule, which moves verbs to the end of their VP in dependent clauses in German. (5) The German Verb Final Rule is stated by Ross as (35̄):

(35)

$$[V \quad X]_{VP}$$

$$\xrightarrow{\text{OBLIG}}$$

1 2

0 2 + 1

Condition: This rule works only in dependent clauses.

Ross claims this rule requires the analysis of auxiliaries as main verbs, i.e., the head of some VP, in order to properly relate the order of modal, passive and tense "auxiliaries" and "main verbs" in

pairs of independent and dependent clauses. In the following examples (Ross, examples 50-55) the verb moved by the Verb Final Rule is underlined.

Independent Clause	Dependent Clause
(36-1) Kasimir sieht Gwendolyn	(36-2) weil Kasimir Gwendolyn sieht
(37-1) Gwendolyn wurde von Kasimir gesehen	(37-2) weil Gwendolyn von Kasimir gesehen wurde
(38-1) Gw ist von K gesehen worden	(38-2) weil Gw von K gesehen worden ist
(39-1) Gw muss von K gesehen worden sein	(39-2) weil Gw von K gesehen worden sein muss

This argument seems to me to have shown that auxiliaries act like true verbs with respect to the German Verb Final Rule and should be classed with the first set of arguments which support the claim that "auxiliaries" are members of the category Verb. However, it is not clear that they must be main verbs. The crucial factor which emerges from both the example sentences and the Verb Final Rule as Ross states it is that the element which is moved, either a true verb or some type of auxiliary, be the leftmost. It is not clear from his argument that being the leftmost element of a VP is equivalent to being its head.

In his second argument for main verb status for auxiliaries, Ross makes just this claim: that, for languages with underlying SVO word order, it is significant that "auxiliaries" precede "main verbs". This is a statistically valid linguistic universal according to Greenberg (1966). Ross claims that this universal is explained by his

analysis that the "main verb", along with the rest of the VP, is a complement of the "auxiliary" analogous to an NP object of a transitive verb. The result is his proposal that perfects and progressives have the respective structures of (33) and (34) above.

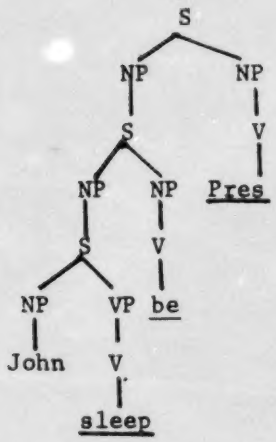
This complement analysis, which is the essence of Ross's proposal that auxiliaries are main verbs, is extremely interesting. Unfortunately, the only argument Ross gives to support it here is its explanatory power in accounting for linguistically universal word order tendencies. This argument is surely not sufficient, since such word order can easily be (and traditionally in versions of "standard theory" such as Aspects) has been introduced at the underlying level of phrase structure rules. Thus, if the main verb analysis is to be maintained, independent justification must be still provided.

THE INTEGRATION OF SYNTACTIC AND SEMANTIC ANALYSIS

Another generative semanticist who favors the auxiliary as main verb analysis is James McCawley. McCawley (1971a) provides some general theoretical discussion of the point Ross makes in his first set of arguments, which support the claim that, despite certain differences, auxiliaries are members of the category Verb. McCawley suggests a mechanism for carrying out this analysis in a transformational grammar:

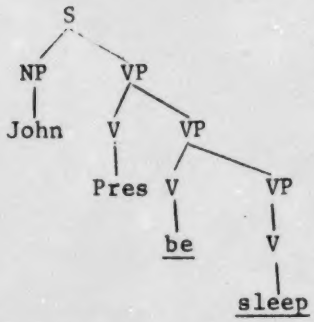
> Many category differences which had figured in previous analyses have turned out to hinge merely on whether certain lexical items do or do not 'trigger' certain transformations. For example, there is no need to set up the categories Pred P, Aux and Modal, which appear in Chomsky (1965); one can treat the various auxiliary verbs as simply verbs which (like the verbs seem, appear, etc.) trigger a transformation of 'VP-promotion', which detaches the VP from the embedded sentence and puts it after the verb in question

(40-1)



structure underlying John is sleeping

(40-2)



result of VP promotion transformation

> ...and which have the additional peculiarity of being combined with the tense element by a fairly early transformation and which are thus affected by all subsequent transformations that mention the 'topmost verb of a clause.' (McCawley, 1971a: 220-221).

The nature of this "additional peculiarity" is made more explicit by McCawley in another article:

> "Auxiliaries are exceptional by virtue of undergoing a transformation of 'tense attraction' which combines them with an immediately preceding tense morpheme. All other transformations that might appear to treat auxiliaries in a special way (for example, subject-verb inversion) are simply transformations that follow 'tense attraction' and have a structural description calling for the first verb." (McCawley, 1971b, p. 97).

Thus, in order to account for the fact that auxiliaries, as opposed to main verbs, exhibit the behavior illustrated in Table 1 above, p.10, McCawley simply assigns their special properties to lexical marking which triggers two obligatory transformations rather than to phrase structure category difference. We will turn to the question of whether category difference vs. lexical marking of auxiliaries are merely notational variants below, pp. 29-31.

It is interesting to note that McCawley has also reanalyzed Standard English as a language which has underlying VSO word order and no VP

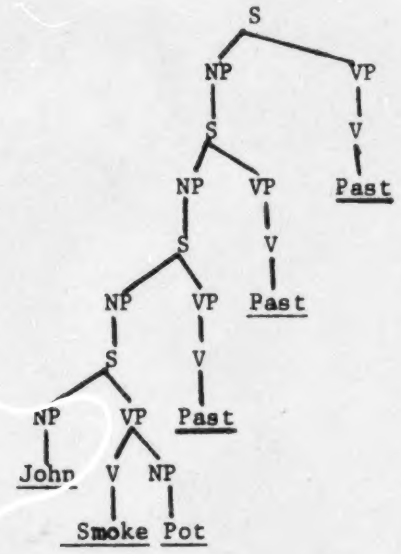
constituent (McCawley, 1970). He notes that this reanalysis necessitates certain changes in the statement of the VP-promotion transformation, which applies to differentiate "auxiliaries" from "true verbs", but also indicates that his changes in Ross's analysis are only slight. It should be recalled, however, that two of Ross's main arguments for considering auxiliaries to be main verbs (above, pp. 10 & 16) were based on an analysis of English as an SVO Language. In McCawley's reanalysis, the crucial complement constituents, the V and the O, are separated.

Despite this fact, the Aux as main verb analysis is not invalidated on the grounds of McCawley's reanalysis of Standard English word order. The two analyses are not contradictory. In the first place, they pertain to different levels of structure. Ross's SVO analysis, following Greenberg, (1966) refers to surface structure, while McCawley's VSO analysis refers to a much deeper level. Secondly, McCawley states that his analysis includes transformational rules which are equivalent to those formulated by Ross in terms of SVO word order. However, the fact that postulating different underlying word orders does not crucially affect the Aux as main verb analysis, indicates again that supporting evidence of a different sort from word order must be found.

McCawley does attempt to provide evidence of another sort. In his article devoted to tense and time reference in Standard English, (McCawley, 1971b), he seeks to refine Ross's analysis and to relate it to semantics. McCawley proposes two non-trivial refinements: First, that the tenses Present and Past are underlying main verbs rather than features, and secondly, that all occurrences of auxiliary <u>have</u> are underlying past tenses.

The phrase markers given in (40) p. 21 exemplify the first of these refinements. The second is illustrated by (41), the structure underlying John had been smoking pot.

(41)



(McCawley, 1971b, p. 99)

To account for the surface distribution of the tense morphemes Pres and Past, which he has introduced as independently selected main verbs, McCawley proposes the following rules (42):

(42-1) Pres → ∅

(42-2) Past → have

if agreement has not applied[7]

[7]The condition on McCawley's tense rewriting rules is a derivational constraint. The agreement transformation, which must precede these rules, presumably operates as in other analyses and attaches Pres to the right of the main verb and replaces it by /-Z/ if the subject is third person singular or by /-∅/ if the subject is other person/number. It appears that in McCawley's version, the agreement transformation cannot be an "elsewhere" rule; the conditions under which it applies must be explicitly specified. The consequences of this fact need to be investigated.

(42-1) and (42-2) account for the facts that there is no present marker and that the three-way distinction between past, present perfect, and past perfect is neutralized in infinitives, -ing complements and after modals--environments in which agreement does not occur. (43) illustrates for infinitives:

(43)

Present	John arrives at 2:00 today	John is believed to arrive at 2:00 today (*arrives)
Past	John arrived at 2:00 yesterday (*has arrived, *had arrived)	John is believed to have arrived at 2:00 yesterday (*to arrived, *to had arrive)
Present Perfect	John has drunk a gallon of beer by now (*drank, *had drunk)	John is believed to have drunk a gallon of beer by now (*to drank, *to had drunk)
Past Perfect	John had already met Sue when he married Cynthia (*met, *has met)	John is believed to have already met Sue when he married Cynthia (*to met, *to had met)

Semantically, McCawley's analysis is concerned with the relationship of grammatical tense to three kinds of information: the time of the speech act, the time of the clause in which the tense occurs, and presuppositions about the knowledge of the addressee. He thus extends the context of information relevant to grammar into the field of pragmatics.

McCawley claims that the meaning of the two-place predicate Past tense is 'prior to' the time of the next higher clause:

> The embedded pasts...were not absolute pasts but rather past relative to the context in which they were embedded, that is they expressed 'prior to' rather than 'past'. Of course, if one adopts Ross's (1968) proposal that all sentences arise from a structure whose topmost verb is a (often unexpressed) 'performative verb,' which indicates the illocutionary force (question, command, promise, warning, and so forth) which the sentence is intended to have, then absolute pasts also mean 'prior to' relative to the context in which they are embedded, since they are embedded in a context which refers to the time of the speech act, that is the present. (McCawley, 1971b, p. 110)

McCawley claims that there is semantic evidence that, in principle at least, there are infinitely many sources of perfects. He gives three examples for past perfects. The sentences (48-1), (49-1) and (50-1) which are embedded past perfects, are claimed to be the past of the past, present perfect, and past perfect sentences (48-2), (49-2), and (50-2) respectively.

(48-1) When John married, Sue, he had met Cynthia five years before.

(48-2) John met Cynthia five years ago.

(49-1) When John married Sue, he had read *Principia Mathematica* five times.

(49-2) John has read *Principia Mathematica* five times.

(50-1) When John had married Sue, he had known Cynthia for five years.

(50-2) John had known Cynthia for five years.

He admits that "the occasion would hardly ever arise for one to use so many subsidiary 'reference points' as to require tenses piled more than three deep." (McCawley, 1971b, p. 103).

With respect to the present perfect, McCawley claims that there are at least four distinct senses in English:

"(a) to indicate that a state of affairs prevailed throughout some interval stretching from the past into the present (Universal)

(51) I've known Max since 1960.

(b) to indicate the existence of past events (extential)

(52) I have read *Principia Mathematica* five times.

(c) to indicate that the direct effect of a past event still continues (Stative)

(53) I can't come to your party tonight--I've caught the flu.

(d) to report hot news (Hot news)

(54) Malcolm X has just been assissinated."

(McCawley, 1971b, p. 104)

To demonstrate the b, c, and d are in fact distinct, McCawley argues that:

> sentence (55) is ambiguous and not vague between the three senses 'There are occasions on which Max was fired', Max is currently out of work, having been fired', and 'Max has been fired, which I presume is news to you', as can be seen by considering sentence (56) which can cover (a) the case of both Max and Fred on occasion having been fired, (b) the case of both of them being out of work as a result of being fired, or (c) the case of two pieces of hot news dealing respectively with the firing of Max and the firing of Fred, but it could not be used to assert that Max is out of work and that Fred, who we may assume to have a job currently, has occasionally been fired.
>
> (55) Max has been fired.
>
> (56) Max has been fired, and so has Fred."
>
> (McCawley, 1971b, p. 104)

McCawley proposes that the underlying structure of present perfects consists of "something that provides the source of a past tense... embedded in something that provides the source of a present tense" (McCawley, 1971b, p. 105). These "somethings" are propositional functions which give the range of the variable and the property which is asserted of things in that range. These functions are joined by a quantifier.

Within this framework, McCawley suggests that the senses of present perfect he has identified can be distinguished as follows:

> The universal and existential present perfects appear both to involve a quantifier that ranges over an interval stretching from the past into the present and differ as regards whether that quantifier is universal or existential...I propose that these two propositional functions provide the sources of the two tenses that I wish these present perfects to be derived from: the range provides the present tense, since it must be an interval containing the present, and the function being asserted provides the past

> tense, since it is being asserted of events or times that are in the past. I assume that the tense morpheme corresponding to the range would be put in the clause corresponding to the quantifier. At some later point in the derivation, these quantifiers are deleted, leaving as traces only their tenses and such words as ever, already, and sometimes, and a time adverb describing the range, for example since Tuesday, during the last 5 years. (McCawley, 1971b, p. 105)

> The stative present perfects would presumably correspond to a semantic representation in which a description of the event is embedded in a context like 'the direct result of _____continues' (McCawley, 1971b, p. 108)

> In the hot news present perfect, it is clear that the status as news of the thing being reported is essential to the acceptability of the sentence. Since a person reporting hot news presupposes that his addressee does not yet know the news that he is reporting, the following possibility presents itself for relating this use of the present perfect to the existential use: one might say that the hot news present perfect is an existential present perfect in which the speaker bases the range of the quantifier not on his own presuppositions as to when the event in question might happen but on his estimate of his addressee's presuppositions... (McCawley, 1971b, p. 109).

We turn now to arguments against the Ross/McCawley Auxiliary as Main Verb analysis and to alternative formulations of the grammar of tense and aspect auxiliaries in English. Both syntactic and semantic issues are raised.

It is significant that in the main verb analysis, "auxiliaries" must still be marked as distinct from other main verbs. As we have seen, this is handled by lexical features, such as [+VP Promotion], which trigger certain transformations. Some non-"auxiliary" verbs, such as seem and appear, share VP Promotion, as McCawley notes in the passage cited above, 20-21. The transformation which expresses the "additional peculiarity" of combining with the tense element, however, seems likely not to characterize any verbs except those which were members of the

category Auxiliary in earlier analysis. It may be more than a question of taste whether this redundancy is "linguistically significant" enough to warrant formal expression at a higher level.

In fact, there is evidence that the analysis of auxiliaries as verbs fail to capture some important syntactic facts. McCawley himself admits that his proposal does not account for the obligatoriness of tense, (McCawley, 1971b, p. 113). (He claims this is the only respect in which his refinement of Ross's analysis fails to express what is included in Chomsky's auxiliary formula.) He suggests that the obligatoriness of tense must be described by an output condition.

An argument that the obligatoriness of tense in English corresponds to an output constraint rather than to a constraint on underlying structures is given by McCawley in his discussion of nominalization transformations in Lakoff (1970), (McCawley, (1970).

> Embedded clauses are unspecified as to tense since there are sentences such as:
>
> Inventors of useful devices always have received and always will receive insufficient remuneration
>
> whose derivations require that [sic] a nominalization that, if every underlying clause had to have a tense, would be derived from a structure containing
>
> 'x has invented a useful device' count as identical to one containing 'x will invent a useful device'.
>
> (McCawley, 1970, p. vii)

The validity of this argument is contingent upon acceptance of the transformationalist hypothesis which regards the source of noun phrases such as inventors of useful devices as sentences such as x invents a

useful device, x has invented a useful device, x will invent a useful device, etc. by the application of the nominalization transformation. The transformationalist hypothesis, however, has been challenged by Chomsky, (1970) whose lexicalist hypothesis, which has support on independent grounds as well, avoids these problems with tense identity, and thus McCawley's basis for relegating the obligatoriness of tense to an output condition.

In addition to the obligatoriness of tense, there are other constraints on auxiliaries which argue against the main verb analysis. Chapin (1971) points out that one type of auxiliary, quasi-modals such as have to, supposed to, going to, etc., are unlike true predicates in the following respects: First, they occur in fixed order. Secondly, they cannot be repeated in the same sentence (unless a true predicate intervenes to introduce an extra level of embedding). Third, they always require "like-subjects" of the true predicates with which they occur.

The following ungrammatical sentences illustrate these points:

(57) *Joe is able to have to think

(58) *Mike has to have to leave

(59) *Marvin is going for Hilda to leave

(Chapin, 1971, pp. 6-8)

A natural tactic to use in attacking the Auxiliary as main verb analysis, is to extend Chapin's argument from ordering and limitation constraints on quasi-modals to all auxiliaries. McCawley provides a counter-argument to the first two points, however, asserting that his rules (42-1) and (42-2) correctly account for the ordering and limitation of auxiliaries expressed by Chomsky's phrase structure formula:

> (a) Tense can only occur first, since tense in any other position is either deleted or turned into have. (b) Modals can be preceded only by tense because of their defective morphology: If modals appeared anywhere else they would have to be in an infinitive or participial form, and English modals do not have such forms. (c) Progressive be must occur last because of the constraint that the topmost verb of its complement must be nonstative:
>
> (60) John is acting like Harry.
>
> (61) *John is resembling Harry.
>
> If the auxiliaries under discussion are verbs, they are surely stative verbs; thus the same constraint which excludes (6) would also exclude (6 .):
>
> (62) *John is have drunk bourbon.
>
> (d) There could not be more than one have since any have's in a structure not already excluded by (b) or (c) would have to be contiguous and since all but one of a string of contiguous have's would be deleted. (McCawley, 1971b, pp. 101-102)

Again we see that the Aux as MV analysis relies on transformational rules rather than phrase structure rules to account for the behavior of auxiliaries.

Chapin, however, claims that it is simpler to express such constraints at the phrase structure level, and regards quasi-modals as members of a category Aux rather than an independently chosen main verb. His argument that this solution is simpler is that:

> There is a finite upper bound on the number of elements a simplex clause may contain, and no such bound on the length of a sentence, which can be generated by the recursive embedding of clauses. (Chapin, 1971, p. 9)

McCawley's proposal, especially his claim that the source of auxiliary have is Past tense, is in direct contrast with the claims of Macaulay, (1971). The latter makes a clear three-way distinction in underlying structure between Tense, Phase, and Aspect. These are intro-

duced as part of the expansion of the phrase structure category Auxiliary. In this respect, Macaulay's analysis is basically like that proposed by Chomsky. It differs from Chomsky's analysis, however, in that Phase and Aspect as well as Tense are obligatory. Modal, also introduced under Aux is optional in both analyses.

Tense, is either Present or Past. Phase, the source of have, is either [+Definite] or [-Definite] and refers to speaker-hearer presuppositions as to whether the action or state is at a definite past occasion or some past time which is not identified. Have-en is a reflex of [-Def] Phase; [+Def] phase has no marked reflex in addition to the main verb, which thus takes do-support when appropriate.

(63-1) "I've been to Carnegie Hall only once."

"Did you hear the New York Philharmonic?"

(That is on the same [+Definite] occasion)

(63-2) "I've been to Carnegie Hall only once."

"Have you heard the New York Philharmonic?"

(That is, have you ever--not necessarily on that occasion [-Definite],

(Macaulay, 1971, pp. 60-61)

Berdan (Personal communication) has pointed out that sentences without have need not be definite, as in:

(64) Did you ever hear the New York Philharmonic?

Examples of this type can be explained in terms of the notion of markedness. When a sentence is otherwise marked as indefinite, as with ever, the indefinite interpretation prevails. Have, on the other hand,

is interpreted as presupposing indefiniteness as the unmarked case, as in Macaulay's example. An overt marker of indefiniteness may also occur with have, for example:

(65) Have you ever heard the New York Philharmonic?

Have may also occur in sentences in which the indefiniteness is highly restricted, for example:

(66) Have you heard the New York Philharmonic play the Beethoven Piano Concerto No. 5 with Daniel Barenboim as solists?

which may be restricted to a single occasion in actuality, but this type of restriction does not contradict the essential indefiniteness.

Aspect, the source of the progressive, is either [+Perfective] or [-Perfective]. Be-ing is a reflex of [-Perfective] Aspect.

Macaulay's analysis generates the following eight possible combinations:[8]

Pres	Pres	Pres	Pres	Past	Past	Past	Past
+Def	+Def	-Def	-Def	+Def	+Def	-Def	-Def
+Perf	-Perf	+Perf	-Perf	+Perf	-Perf	+Perf	-Perf

Applying the rules

(67) [-Def] → have-en

(68) [-Perf] → be-ing

we get:

(69) John hits the ball.

(70) John is hitting the ball.

(71) John has hit the ball.

(72) John has been hitting the ball.

(73) John hit the ball.

---

[8]Optional modals are ignored for purposes of exposition.

(74) John was hitting the ball.

(75) John had hit the ball.

(76) John had been hitting the ball.

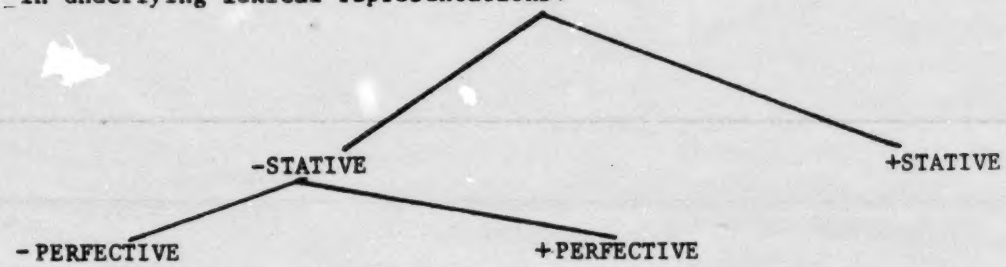
Macaulay's analysis has the obvious advantage of directly generating the finite number of permissible sequences from a finite number of underlying structures. The test of his analysis is whether he is able to account for the semantic variety which McCawley handles with his infinite potential sources.

It appears that Macaulay's analysis does provide for considerable semantic variety. This facility is partly due to his full exploitation of the potential of Aspect features.

In addition to introducing Aspect as part of the expansion of the phrase structure category Aux, as Chomsky, Ross, and McCawley do, Macaulay's grammar uses Aspect in two other ways. First, the Aspect features [+PERFECTIVE] and [-PERFECTIVE] are used as part of the underlying lexical representations of verbs. Macaulay states:

> With the exception of Stative verbs, which do not participate in the opposition Perfective/Imperfective, all verbs must be specified in the lexicon for the feature Perfective. Verbs which are [-Perfective] occur freely with durative adverbials, e.g., He swam for ten minutes, He talked until five O'clock. Verbs which are [+Perfective] have some restrictions on their occurrence with durative adverbials, e.g., *He won the race until a few minutes ago, *He has died for two hours. (Macaulay, 1971, vi)

Macaulay's analysis yields the following classification of verbs in underlying lexical representations:



run	hold	recognize	know
walk	hurt	realize	contain
swim	keep	arrive	belong
read	lie	start	entail
build	lead	stop	cost
make	rule	die	have
sleep	ride	break	understand
try	sew	awake	doubt
bear	sing	become	hate
burn	speak	begin	like
come	creep	bite	want
dig	draw	burst	hear
drink	dream	catch	see
dwell	stand	choose	taste
drive	fight	fall	sound
eat	grow	forget	smell
hang	spin	forgive	seem
tell	spread	hit	desire
think	talk	lose	preclude

(Macaulay, 1971, p. 127)

The second new characteristic use of Aspect in Macaulay's grammar is seen in his provision for feature change from [+PERFECTIVE] to [-PERFECTIVE] and from [-PERFECTIVE] to [+PERFECTIVE] under certain conditions.

Among the conditions under which the perfectivity value is changed, are the following;

> ...[-PERFECTIVE] verbs become [+PERFECTIVE] by the addition of a perfectivizing particle, e.g., up:

(77) Joe drank the concoction until midnight [-PERFECTIVE]

(78) *Joe drank up the concoction until midnight [+PERFECTIVE]

Another way [-PERFECTIVE] verbs become [+PERFECTIVE] is by occurring with perfective adverbials e.g., to the village, vs. imperfective adverbials, e.g., toward the village.

(Macaulay, 1971, p. 125)

(79) He drove until midnight [-PERFECTIVE]

(80) He drove toward the village until midnight [-PERFECTIVE]

(81) *He drove to the village until midnight [+PERFECTIVE]

Underlying [-PERFECTIVE] verbs can also become [+PERFECTIVE]:

...there is a relationship between the kind of NP that occurs as subject and the form of the verb.

(82) *This piece of material is losing its sheen these days.

(83) *He is dying of tuberculosis these days.

(84) This kind of material is losing its sheen these days.

(85) Fewer people are dying of tuberculosis these days.

Since the verbs in (82-85) are inherently [+PERFECTIVE] the difference in acceptability must lie in their subjects...in (82 and 83) the [+SPECIFIC] subject makes the sentences unacceptable, in (84 and 85) the [-SPECIFIC] subject not only makes the sentences acceptable but also [-PERFECTIVE].

(Macaulay, 1971, pp. 137-138)

...a further way in which inherently [+PERFECTIVE] verbs may become [-PERFECTIVE] is through negation.

(86) *Rita Sue arrived until midnight

(87) Rita Sue didn't arrive until midnight

(Macaulay, 1971, p. 136)

Macaulay's introduction of the feature [± DEFINITE] in the underlying structure of the verbal auxiliary system of Standard English is strikingly similar to Loflin's analysis of Black English, discussed above, pp. 4-5. Recall that Loflin rewrites Tense as (88)

(88)

$$\text{Tense} \rightarrow \left\{ \begin{array}{l} \text{A-Temporal} \\ \text{Present} \\ \text{Indefinite Past Imperfective} \\ \text{Definite Past Imperfective} \end{array} \right\}$$

(Loflin, 1970, p. 19)

The correspondance of [-DEFINITE] → have+en, [+DEFINITE] → unmarked, occurs in Loflin's analysis of Black English as it does in Macaulay's analysis of Standard English, although in Black English, the have may not occur in the surface realization. Loflin's examples (89) and (90) illustrate:

(89) She been breaking my heart (Indefinite Past Imperfective)

(90) She was breaking my heart (Definite Past Imperfective)

In addition to his analysis of the significant distinctions in the auxiliary itself--reflected in the occurrence or absence of have+en and be+ing--Macaulay discusses the interaction between the auxiliary and other constituents of the sentence. One feature which interacts with the Aspect feature +PERFECTIVE in Macaulay's analysis is GENERIC, illustrated by the sentence (91-92):

(91) The beaver builds dams.

(92) Beavers build dams.

Macaulay states:

> ...a generic interpretation is not caused by the presence of generic features or constituents but rather by the absence of certain features or constituents which are incompatible with a generic interpretation.
>
> (Macaulay, 1971, p. 78)

One of the elements which preclude generic interpretation is Imperfective aspect. Sentences (93 and 94), while not ungrammatical cannot be interpreted as generic:

(93) The beaver {is / was} building dams.

(94) Beavers {are / were} building dams.

Macaulay's analysis is interesting in light of the fact that GENERIC has been proposed as an integral part of the Auxiliary system of Black English. Recall that in Loflin's analysis, (1970) the contrast Generic/Non-Generic is introduced as the first phrase structure rule rewriting Aspect, (95)

(95) Aspect → {Generic / Nongeneric}

According to Loflin, Generic underlies Black English sentences such as (96):

(96) She breaks hearts.

Significantly, the interrelationship between GENERIC and PERFECTIVE shows up for Black English as it does in Macaulay's analysis of Standard English. Loflin's second Auxiliary phrase structure rule is (97):

(97) Non-Generic → { Perfective / Imperfective }

(97) limits the occurrence of both +PERFECTIVE and -PERFECTIVE to Non-GENERICS. While this is not identical to Macaulay's analysis of Standard English, which simply states that Imperfective is not consonant with Generic interpretation, it is strikingly similar.

It appears that the surface differences between Black and Standard English do not demand radically different underlying structures. On the contrary, it seems that deeper analysis of Standard English reveals the importance of the very underlying categories which have been posited to account for Black English sentences which differ superficially from Standard English.

The existence of this similarity of the tense/aspect systems of Black and Standard English becomes apparent only when a strictly syntactic approach which focuses just on the overt auxiliary and verbal forms is abandoned. It becomes clear in the larger context of the semantic and pragmatic relations between these verbal elements and other constituents of the sentences in which they occur.

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